STRUCTURAL BUILDING COMPONENTS MAGAZINE (FORMERLY WOODWORDS)
December 1999

"Japanese Truss Market--Fertile Ground Ready For Growth" by Tom Rogers, Manager, Export Engineered Products, Weyerhaeuser

The Japanese housing industry, which produces 1.2-1.3 million new houses every year, is the world's second largest market for new housing starts. This is interesting, if not surprising, considering Japan's population base is less than one-half that of the United States, and the land area is approximately 1/26 that of the U.S. This market is attractive to wood-supplying regions of the world because approximately 50% of new home construction in Japan is wood frame.

Wood frame residential construction in Japan traditionally refers to the post and beam method, which still accounts for better than 80% of new wooden housing starts. Following the introduction of North American style 2x4 methods in the mid-1970's, 2x4 platform frame construction has gained steady acceptance and has averaged roughly 10% annual growth. After reaching a peak in 1996 at just under 94,000 starts (or 12% market share in wooden housing), Japan's recent economic recession and downturn in new housing activity has caused a decline in 2x4 starts to 75,000 units now in 1999—but 2x4 has maintained its share at approximately 12%. Pre-fabricated wood frame construction (i.e. panelized or unitized factory fabricated homes) accounts for the remaining 5-6% of total wooden starts.

As homeowners increasingly demand better quality and more durable homes, factory fabricated components and engineered products are gaining strong favor in the Japanese housing market. Old, narrow homes built after World War II using cheap materials are being replaced at a record rate and rebuilds are forecast to account for 60% of the new housing market in five years and 90% in 10 years. The average life of the Japanese home today is 26 years, but should compare favorably to the United States level (44 years or more) in the not-too-distant future as higher quality materials and methods are incorporated into new home construction. Recent legislation, under the new Housing Quality Assurance Act, is targeted to ensure more consistent and higher quality construction and increase accountability of the home builder through a guaranteed 10-year warranty program.

Another major factor having a significant impact on the future of housing is the reduced availability of skilled craftsmen in Japanese construction. Already, Japan has widely adopted factory fabricated "pre-cut" components for traditional post and beam construction, and wall, floor and roof panels, and roof trusses are following that trend as well. Though traditional post and beam has a history of several hundred years, 2x4 platform frame construction methods and pre-fabricated components anticipate strong future growth as the advantages of consistent quality, reduced jobsite labor, and reduced jobsite waste become more valuable to the home builder.

New building materials and methods, not currently covered under the Building Standard Law of

Japan, are regulated through special product approvals administered by the Japanese Ministry of Construction (MOC). Light gauge steel truss plates fall under this special product approval—today referred to as an Article #38 approval—which is similar in concept to our own NER approval system. Broad reforms now being implemented in the Building Standard Law are moving Japan toward the adoption of performance-based standards to regulate acceptance and uniform application of new product approvals.

Concurrent with these regulatory changes, the Japanese truss "industry" (in its very loose form today) will be promoting development of a TPI-equivalent performance standard. This effort should bring the industry more closely together into a formal organization that could eventually provide WTCA-equivalent services including marketing, public and professional education, technical guidance in building codes, and supervision of industry-wide quality assurance inspection of truss manufacturing.

Today, approximately 35 truss plants are actively operating in Japan. Companies operating truss factories are either independent component mills serving local, regional or national home builders, or directly integrated with and owned by a scale home builder—many of which already produce wall and floor panel components. Truss framing is primarily designed for 2x4 or pre-fabricated panelized residential homes and accounts for approximately 15% market share in these segments. Thus, truss construction today has only 2% market share in Japanese wooden residential construction. As the advantages of truss framing become more widely promoted and accepted, especially in the traditional post and beam segment, Japan's truss market potential is estimated at approximately 40% of the current U.S. volume.

Key to the development and expansion of the truss industry will be technology transfer. It's generally considered that Japan's truss industry is now at a point equivalent to the North American market in the 1960s. However, with access to sophisticated computerized design and engineering programs, the availability of efficient manufacturing equipment and processes, and access to North American industry experience, Japan's truss industry will mature at a much quicker pace. Many in the market consider that ready access to a broad network of local truss component supply is a key factor limiting more rapid growth. Additionally, transportation issues (cost, smaller roads and tighter regulations) will complicate development efforts by limiting design to relatively shorter span applications, and/or require more frequent use of field spliced monos or piggy back trusses.

Patience is the key word for new product market development in Japan. However, demographic, cultural and legislative changes are rapidly helping to bring trusses into the forefront as a viable product alternatives for framing components. North America's successful truss industry framework provides a solid model Japan can use to guide development of its truss industry. Key elements of this framework will be:

- Development and adoption of uniform performance standards.
- Establishment of a code-recognized, industry-wide, third-party quality assurance inspection program for truss fabricators.
- Creation of an industry voice for the purpose of truss promotion and education.

Given improvement in the national economic scene, this "fertilizer" will act quickly on the seeds

that have been planted to yield a new industry and substantial market opportunities.

Tom Rogers joined Weyerhaeuser in 1984, and has spent the past seven years as Manager of Export Engineered Products with a focus on market/product development and sales in the Japanese market. He can be reached at 253/924-6286.

SBC HOME PAGE

The mission of Structural Building Components Magazine (SBC) is to increase the knowledge of and to promote the common interests of those engaged in manufacturing and distributing of structural building components to ensure growth and continuity, and to be the information conduit by staying abreast of leading-edge issues. SBC will take a leadership role on behalf of the component industry in disseminating technical and marketplace information, and will maintain advisory committees consisting of the most knowledgeable professionals in the industry. The opinions expressed in SBC are those of the authors and those quoted solely, and are not necessarily the opinions of any of the affiliated associations (SBCC, WTCA, SCDA & STCA).